

WHAT IS CLAIMED IS:

1. A multibeam scanning optical device comprising:
 - a first optical system which transforms a plurality of light beams emitted from a plurality of light source means into divergent light beams or convergent light beams;
 - a second optical system which focuses a plurality of light beams emitted from the first optical system as a linear image in a main scanning direction in the vicinity of a deflection plane of deflecting means;
 - the deflecting means which deflects a plurality of light beams emitted from the second optical system in the main scanning direction; and
 - a third optical system which focuses the plurality of light beams deflected by the deflecting means on a surface to be scanned,
- wherein the multibeam scanning optical device further comprises a plurality of adjusting means having sensitivities different from each other which change a relative gap in a sub-scanning direction of principal ray of a plurality of light beams incident in the second optical system.

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2. A multibeam scanning optical device according to claim 1, wherein one of the plurality of

adjusting means is automatically controlled by a drive mechanism according to a signal from scanning lines gap detecting means and maintains the predetermined scanning lines gap.

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3. A multibeam scanning optical device according to claim 2, wherein the drive mechanism is fixed during image formation on a page basis.

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4. A multibeam scanning optical device according to claim 1, wherein the first optical system has a plurality of focusing optical elements and has beam synthesizing means which synthesizes a plurality of light beams emitted from the plurality 15 of focusing optical elements into a plurality of light beams proximate to each other.

5. A multibeam scanning optical device according to claim 4, wherein optical axes of the 20 plurality of focusing optical elements are arranged so as to be parallel or substantially parallel with each other.

6. A multibeam scanning optical device 25 according to claim 1, wherein the plurality of adjusting means include two adjusting means of a first adjusting means and a second adjusting means.

7. A multibeam scanning optical device according to claim 6, wherein the plurality of light source means and the first optical system are 5 integrally formed as a unit, and the first adjusting means includes a mechanism for rotating and adjusting the integrated unit with an axis parallel with the optical axes of the plurality of focusing optical elements as a rotation axis.

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8. A multibeam scanning optical device according to claim 6, wherein the plurality of focusing optical elements and the plurality of light source means corresponding thereto are integrated as 15 a unit, respectively, and the first adjusting means includes a mechanism for changing a relative gap among the integrated respective units in the sub-scanning direction.

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9. A multibeam scanning optical device according to claim 6, wherein the second adjusting means is automatically controlled.

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10. A multibeam scanning optical device according to claim 9, wherein the second adjusting means includes a mechanism for rotating and adjusting the beam synthesizing means with an axis parallel

with the main scanning direction as a rotation axis.

11. A multibeam scanning optical device according to claim 9, wherein the second adjusting 5 means includes a mechanism for rotating and adjusting the beam synthesizing means with an axis parallel with the optical axes of the focusing optical elements as a rotation axis.

10 12. A multibeam scanning optical device according to claim 1, wherein the light source means comprise multibeam laser light sources having a plurality of light emission points.

15 13. A multibeam scanning optical device according to claim 12, wherein the first optical system includes a plurality of focusing optical elements, and the plurality of adjusting means includes a first adjusting means which rotates and 20 adjusts the multibeam laser light sources corresponding to the focusing optical elements with optical axes of the focusing optical elements as rotation axes.

25 14. A multibeam scanning optical device according to any one of claims 1 to 13, wherein the deflecting means is constituted by a polygon mirror,

and a width in the main scanning direction of a light beam incident in the polygon mirror is larger than a width of a deflection plane of the polygon mirror.

- 5 15. An image forming apparatus comprising:
 - a multibeam scanning optical device according to any one of claims 1 to 13;
 - a photosensitive member arranged on a surface to be scanned;
- 10 a developing device which develops an electrostatic latent image, which is formed on the photosensitive member by a light beam used for scanning by the multibeam scanning optical device, as a toner image;
- 15 a transfer device which transfers the developed toner image onto a material to be transferred; and a fixing device which fixes the transferred toner image on the material to be transferred.
- 20 16. An image forming apparatus comprising:
 - a multibeam scanning optical device according to any one of claims 1 to 13; and
 - a printer controller which converts code data inputted from an external device into an image signal and inputs the image signal to the scanning optical system.
- 25 17. A color image forming apparatus comprising

a plurality of image bearing members which are arranged on a surface to be scanned of a multibeam scanning optical device according to any one of claims 1 to 13, respectively, and form images of 5 colors different from each other.

18. A color image forming apparatus according to claim 17, further comprising a printer controller which converts color signals inputted from an 10 external device into image data of different colors and inputs the image data to the respective scanning optical systems.